

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**ASSIGNEE:** RIETER PERFOJET, Montbonnot, France

**INVENTOR:** Frederic Noelle

**Serial n°:** 10/529.842

**Filed:** October 10, 2003

**Title:** METHOD AND INSTALLATION FOR PRODUCING A NONWOVEN FABRIC EXHIBITING GOOD PROPERTIES OF TENSILE RESISTANCE

**Examiner:** SAEED M. HUDA

**Art Unit:** 1791

**DECLARATION OF EMILIE PLEYBER**

I, EMILIE PLEYBER, hereby declare as follows:

I am an employee of RIETER PERFOJET, Montbonnot, France, the assignee of the above-cited application.

I am presently, and I have been for the past 2 years, a Project Manager in the R&D Division of Rieter Perfojet, specialist for the development of the SPUNBOND/ SPUNLACE technology.

I have studied the present Office Action dated March 13, 2009 in the '842 application, and I am familiar with the prior art cited.

I have carried out the following 2 tests, as follows:

**TEST 1 (corresponding to the installation '842)**

- one spunbond unit (1), depositing a web of spunbond (SB) filaments de titre of 2,3 dtex ,
- the web of SB filaments is deposited on the surface of the first conveyor (2)
- the air permeability of the conveyor (2) is 750 cubic feet per minute
- at the exit of the first conveyor (2), the web passes onto a drum (4) with a vacuum inside, so that the web is applied to the lower part of the drum (4), as described in the '842 application
- at the exit of the drum (4), the web is taken up by the conveyor (5)
- the air permeability of the conveyor (5) is 500 cubic feet per minute, as described in the '842 application the conveyor (5) is less air-permeable than the conveyor (2)
- on the conveyor (5) the web is consolidated by the projection of water jets, injector (6)
- the principal characteristics of the injector (6) are the following:

- |   |                     |                   |
|---|---------------------|-------------------|
| 1 | diameter water jets | 120 $\mu\text{m}$ |
| 2 | water jets pressure | 150 bar           |

The resulted nonwoven web (NW1 for TEST 1), has a basis weight of 53 g/m<sup>2</sup> and was tested for mechanical properties MD, CD .

The MD/CD ratio was calculated, and the results are in the TABLE (bellow).

### TEST 2 (Comparative test)

- one spunbond unit (1), depositing a web of spunbond (SB) filaments de titre of 2,3dtex
- the web of SB filaments is deposited on the surface of a conveyor (2)
- the air permeability of the conveyor (2) is 750 cubic feet per minute
- on the same conveyor (2) the web is consolidated by the projection of water jets by an injector with the same principal characteristics of the injector (6), as follows:

- |   |                     |                   |
|---|---------------------|-------------------|
| 1 | diameter water jets | 120 $\mu\text{m}$ |
| 2 | water jets pressure | 150 bar           |

The resulted nonwoven web (NW2 for TEST 2), has a basis weight of 53 g/m<sup>2</sup> and was tested for mechanical properties MD, CD .

The MD/CD ratio was calculated, and the results are in the TABLE (bellow).

Table

	MD (N/50 mm)	CD (N/50 mm)	MD/CD
TEST 1 (NW1)	105	75	1,40
TEST 2 (NW2)	72	51	1,41

### Conclusions

The NW 1 was transferred from the Spunbond conveyor on which the web of filaments was deposited, to a second conveyor, with a lower permeability than the first conveyor, and was consolidated by water jets on the conveyor with a lower permeability.

The NW 2, was consolidated on the Spunbond conveyor, the same conveyor on which the web of filaments was deposited.

As we can see from the results in the TABLE, the NW1 corresponding to the '842 application is more resistant, as it has a better resistance in the machine direction (MD) and also a better resistance in the cross direction (CD): MD and CD are 1,4 times greater than the corresponding MD and CD of the NW2.

I hereby declare that all statements made herein of my own knowledge are true and that all statements made herein on information and belief are believed to be true; and further, that these statements were made with the knowledge that wilful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such wilful false statements may jeopardize the validity of the application or any patent issued thereon.

MONTBONNOT, FRANCE

June 10, 2009

**EMILIE PLEYBER**

(Signature) *Emilie Pleyber*